

## CLAIMED INVENTION

We claim:

1 1. A method comprising:  
2 calendaring a plurality of virtual connections for processing; each virtual  
3 connection calendared to a particular time period such that the virtual  
4 connections are not calendared to at least one time period;  
5 storing a plurality of virtual connection addresses in a cache memory; and  
6 processing a virtual connection corresponding to one of the plurality of  
7 virtual connection addresses during one of the at least one time periods.

1 2. The method of claim 1, wherein the most recently processed calendared  
2 virtual connection is stored in the cache memory.

1 3. The method of claim 1, wherein virtual connections corresponding to the  
2 virtual connection addresses stored in the cache memory are processed in a  
3 round-robin fashion.

1 4. The method of claim 1, further comprising:  
2 processing a calendared virtual connection; and

3 evaluating the processed calendared virtual connection such that if the  
4 processed calendared virtual connection meets evaluation criteria the address of  
5 the processed calendared virtual connection is added to the cache memory.

1 5. The method of claim 4, wherein evaluating comprises:  
2 determining that the address of the processed calendared virtual  
3 connection is not currently in the cache memory;  
4 determining that the processed calendared virtual connection has more  
5 data to transmit; and  
6 determining that a recipient can receive more data.

1 6. The method of claim 4, wherein the address of a processed calendared  
2 virtual connection meeting the evaluation criteria is stored in a first cache  
3 memory position.

1 *A.* An apparatus comprising:  
2 means for calendaring a plurality of virtual connections for processing,  
3 each virtual connection calendared to a particular time period such that the  
4 virtual connections are not calendared to at least one time period;  
5 means for storing a plurality of virtual connection addresses in a cache  
6 memory; and

7 means for processing a virtual connection corresponding to one of the  
8 plurality of virtual connection addresses during one of the at least one time  
9 periods.

1 8. The apparatus of claim 7, wherein the most recently processed calendared  
2 virtual connection is stored in the cache memory.

1 9. The apparatus of claim 7, wherein virtual connections corresponding to  
2 the virtual connection addresses stored in the cache memory are processed in a  
3 round-robin fashion.

1 10. The apparatus of claim 7, further comprising:  
2 means for evaluating the processed calendared virtual connection such  
3 that if the processed calendared virtual connection meets evaluation criteria the  
4 address of the processed calendared virtual connection is added to the cache  
5 memory.

1 11. The apparatus of claim 10, wherein evaluating comprises:  
2 determining that the address of the processed calendared virtual  
3 connection is not currently in the cache memory;  
4 determining that the processed calendared virtual connection has more  
5 data to transmit; and

6 determining that a recipient can receive more data.

1 12. The apparatus of claim 10, wherein the address of a processed calendared  
2 virtual connection meeting the evaluation criteria is stored in a first cache  
3 memory position.

1 13. A machine-readable medium that provides executable instructions, which  
2 when executed by a processor, cause said processor to perform a method  
3 comprising:

4 calendaring a plurality of virtual connections for processing, each virtual  
5 connection calendared to a particular time period such that the virtual  
6 connections are not calendared to at least one time period;  
7 storing a plurality of virtual connection addresses in a cache memory; and  
8 processing a virtual connection corresponding to one of the plurality of  
9 virtual connection addresses during one of the at least one time periods.

1 14. The machine-readable medium of claim 13, wherein the most recently  
2 processed calendared virtual connection is stored in the cache memory.

1 15. The machine-readable medium of claim 13, wherein virtual connections  
2 corresponding to the virtual connection addresses stored in the cache memory  
3 are processed in a round-robin fashion.

1 16. The machine-readable medium of claim 13, further comprising:  
2 processing a calendared virtual connection; and  
3 evaluating the processed calendared virtual connection such that if the  
4 processed calendared virtual connection meets evaluation criteria the address of  
5 the processed calendared virtual connection is added to the cache memory.

1 17. The machine-readable medium of claim 16, wherein evaluating comprises:  
2 determining that the address of the processed calendared virtual  
3 connection is not currently in the cache memory;  
4 determining that the processed calendared virtual connection has more  
5 data to transmit; and  
6 determining that a recipient can receive more data.

1 18. The machine-readable medium of claim 16, wherein the address of a  
2 processed calendared virtual connection meeting the evaluation criteria is stored  
3 in a first cache memory position.

1 19. An apparatus comprising:  
2 a virtual connection calendaring unit for calendaring a plurality of virtual  
3 connections for processing, each virtual connection calendared to a particular

4 time period such that the virtual connections are not calendared to at least one  
5 time period;  
6 a virtual connection address storage unit for storing a plurality of virtual  
7 connection addresses in a cache memory; and  
8 a virtual connection processing unit to process a virtual connection  
9 corresponding to one of the plurality of virtual connection addresses during one  
10 of the at least one time periods.

1 20. The apparatus of claim 19, wherein the most recently processed  
2 calendared virtual connection is stored in the cache memory.

1 21. The apparatus of claim 12, wherein virtual connections corresponding to  
2 the virtual connection addresses stored in the cache memory are processed in a  
3 round-robin fashion.

1 22. The apparatus of claim 19, further comprising:  
2 an evaluation unit for evaluating the processed calendared virtual  
3 connection such that if the processed calendared virtual connection meets  
4 evaluation criteria the address of the processed calendared virtual connection is  
5 added to the cache memory.

1 23. The apparatus of claim 22, wherein evaluating comprises:

2           determining that the address of the processed calendared virtual  
3   connection is not currently in the cache memory;  
4           determining that the processed calendared virtual connection has more  
5   data to transmit; and  
6           determining that a recipient can receive more data.

1   24.   The apparatus of claim 22, wherein the address of a processed calendared  
2   virtual connection meeting the evaluation criteria is stored in a first cache  
3   memory position.

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